



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/596,369

07/13/2006

Gideon Kutz

SC13080EI

5739

23125

7590

07/07/2009

FREESCALE SEMICONDUCTOR, INC.

LAW DEPARTMENT

7700 WEST PARMER LANE MD:TX32/PL02

AUSTIN, TX 78729

EXAMINER

RIZK, SAMIR WADIE

ART UNIT

PAPER NUMBER

2112

NOTIFICATION DATE

DELIVERY MODE

07/07/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USADOCKETING@FREESCALE.COM

Office Action Summary	Application No. 10/596,369	Applicant(s) KUTZ ET AL.	
	Examiner SAM RIZK	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 and 16-19 is/are allowed.
- 6) ☒ Claim(s) 11-14 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Response to the applicant's amendment dated 4/9/2009
- Claims 20 and 21 have been Cancelled
- Claims 1-19 have been submitted for examination
- Claims 11-14 have been rejected
- Claim 15 is objected to
- Claims 1-10 and 16-19 have been allowed

Drawings Objections

1. In view of the applicant's amended drawings filed on 4/9/2009, all objections to the drawings are withdrawn.

Specification Objections

2. In view of the applicant's amended specification filed on 4/9/2009, all objections to the specification are withdrawn.

Response to Arguments

3. Applicant's arguments with respect to the independent claims 1 and 17 filed on 4/9/2009 have been fully considered and are persuasive. Claims 1 and 17 rejections under section **35 USC § 103(a)** of the office action mailed on 12/12/2008 has been withdrawn.
4. Applicant's arguments with respect to the independent claim 11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Bickerstaff US patent no. 6851039 (Hereinafter Bickerstaff).
6. In regard to claim 11, Bickerstaff teaches:
 - An interleaver for a turbo encoder and decoder comprising;
 - at least one component adapted to provide valid and non-valid interleaved addresses; and(col. 6, lines (43-61) through col. 7, lines (1-8) in Bickerstaff)

Art Unit: 2112

- a buffer arranged to store valid addresses and to output valid addresses at substantially constant rate; wherein the buffer is adapted to compare received interleaved addresses with the size of the data array to determine a validity of a received address.

(col. 7, lines (25-33) in Bickerstaff)

7. In regard to claim 12, Bickerstaff teaches:

- (Currently Amended) An interleaver according to claim 11, wherein the at least one component comprises a row counter.

(col. 3, lines (30-55) in Bickerstaff)

8. In regard to claim 13, Bickerstaff teaches:

- (Currently Amended) An interleaver according to claim 11, wherein the buffer is arranged to control the flow of data into the interleaver, such that when a predetermined number of addresses have been stored in the buffer the buffer stops the flow of data into the interleaver.

(col. 6, lines (43-61) through col. 7, lines (1-8) in Bickerstaff)

9. In regard to claim 14, Bickerstaff teaches:

- (Currently Amended) An interleaver according to any claim 11 wherein a rate of received interleaved addresses to the buffer is responsive to a relationship between valid and invalid addresses.

(col. 6, lines (43-61) through col. 7, lines (1-8) in Bickerstaff)

Allowable Subject Matter

11. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
12. Claims 1-10 and 16-19 are allowed.

REASONS FOR ALLOWANCE

13. Independent claims 1 and 17 of the instant application teach, for example, an interleaver for a turbo encoder and decoder comprising;

a first table populated with a first set of parameters to allow intra-row permutation of data within an array in accordance with a first wireless communication standard when operation in the first wireless communication standard is required; and

a second table populated with a second set of parameters to allow inter-row permutation of the data in accordance with the first wireless communication standard when operation in the first wireless communication standard is required wherein the first table is populated with a third set of parameters to allow intra-row permutation of data within an array in accordance with a second wireless communication standard when operation in the second wireless communication standard is required and to populate the second table with a fourth set of parameters to allow inter-row permutation of

Art Unit: 2112

the data in accordance with the second wireless communication standard when operation in the second wireless communication standard is required;

wherein the interleaver further comprises a buffer arranged to compare received interleaved addresses with the size of the data array and to store valid addresses; and

wherein the buffer is arranged to control the flow of data into the interleaver, such that when a predetermined number of addresses have been stored in the buffer the buffer stops the flow of data into the interleaver to allow the outputting of addresses from the buffer to be performed at substantially a constant rate.

The following limitations are not found in the prior art of record, particularly, none of the prior arts of record teach nor fairly suggest,

an interleaver for a turbo encoder and decoder comprising;

a first table populated with a first set of parameters to allow intra-row permutation of data within an array in accordance with a first wireless communication standard when operation in the first wireless communication standard is required; and

a second table populated with a second set of parameters to allow inter-row permutation of the data in accordance with the first wireless communication standard when operation in the first wireless communication

Art Unit: 2112

standard is required wherein the first table is populated with a third set of parameters to allow intra-row permutation of data within an array in accordance with a second wireless communication standard when operation in the second wireless communication standard is required and to populate the second table with a fourth set of parameters to allow inter-row permutation of the data in accordance with the second wireless communication standard when operation in the second wireless communication standard is required; wherein the interleaver further comprises a buffer arranged to compare received interleaved addresses with the size of the data array and to store valid addresses; and

wherein the buffer is arranged to control the flow of data into the interleaver, such that when a predetermined number of addresses have been stored in the buffer the buffer stops the flow of data into the interleaver to allow the outputting of addresses from the buffer to be performed at substantially a constant rate.

- 14. Claims 2-10 and 16 depend from claim 1.
- 15. Claims 18 and 19 depend from claim 17.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

Art Unit: 2112

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

/Sam Rizk/

Examiner, Art Unit 2112